RESTAURANT MANAGEMENT SYSTEM

MINI REPORT

submitted by

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JUNE 2022

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this Mini project report titled "RESTAURANT MANAGEMENT SYSTEM" is the Bonafide work of " MEGHA MALA C(

" who carried out the Mini project work under my supervision.

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Submitted for the university project viva-voce Examination held on ……...at

Er. PERUMAL MANIMEKALAI COLLEGE OF ENGINEERING, HOSUR.

INTERNAL EXAMINER **EXTERNAL EXAMINER**

ACKNOWLEDGEMENT

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ABSTRACT

The system is implemented to reduce the manual work and enhances the accuracy of work in a restaurant. This system manages and maintains the record of customers and their order online. This java App has been made in a user friendly interface. So that Customer can add and delete the food items easily. The menu card of different restaurant consists of various food varieties available in the restaurant. Through the place ordering menu, the staff can simply click and order the food. The messaging module tells the supplier to supply the particular food. Also tracking module track the order. The billing system prepares the bill according to the delivered food. This system entirely reduces the unnecessary time. Every order is associated with an individual seat at the table, and orders are built one customer at a time, just like on paper, but with greater accuracy. Items can also easily be shared by the whole table, moved or modified, and noted and the cost can be calculated in real time.

TABLE OF CONTENT

LITERATURE SURVEY

Review of Related Literature The researchers gathered the following information for better features and development of the Sunny Web, a website for Valentino Restaurant. The information gathered were relevant and have been analyzed and assembled by the researchers for better understanding to those who will try to read or study this research. Restaurant A restaurant is a business which prepares and serves food and drinks to customers in exchange for money, either paid before the meal, after the meal, or with an open account. Meals are generally served and eaten on the premises, but many restaurants also offer take-out and food delivery services, and some only offer take-out and delivery. Restaurants vary greatly in appearance and offerings, including a wide variety of cuisines and service models ranging from inexpensive fast food restaurants and cafeterias to mid-priced family restaurants, to high-priced luxury establishments. In Western countries, most mid- to high-range restaurants serve alcoholic beverages such as beer and wine. Some restaurants serve all the major meals, such as breakfast, lunch and dinner (e.g., major fast-food chains, diners, hotel restaurants, and airport restaurants). Other restaurants may only serve a single meal (e.g., a pancake house may only serve breakfast) or they may serve two meals (e.g., lunch and dinner)

INTRODUCTION

INTRODUCTION

Over the years, technology has tremendously revolutionized the restaurant industry. Much of the innovation has been with point-of-sale (POS) operations. There is a famous saying that “People eat with their eyes”. The e-Menu provides additional information about menu items and drinks than a traditional paper menu. The simplicity and ease of access of a menu are the main things that facilitate ordering food in a restaurant. The service goes quicker. Restaurants can build their ereputation and customer community in live. The restaurant menu has evolved from its humble beginnings on carte chalkboards and imageless print to today’s detailed, colorful displays. With the emergence of digital tablets and user-friendly touch screen technology menus can move to a whole new surface. With this electronic menu, orders can be taken correctly the first time. There is no need to run back and forth to a distant terminal, because the terminal is always with the server. Every order is associated with an individual seat at the table, and orders are built one customer at a time, just like on paper, but with greater accuracy. Items can also easily be shared by the whole table, moved or modified, and noted and the cost can be calculated in real time. The Recommendation algorithm suggests dishes to the patrons based on previous orders. It makes it easier for the customer to build his/her order and also view the most popular dishes. Moreover, various dimension filters can be used according to individual preferences e.g. Price, taste, quantity, etc.

OVERVIEW OF THE MINI PROJECT

- To develop android application for restaurant ordering system and provides facility to update the menu.
- To develop a software at kitchen and cashier to receive order from server
- To establish network for kitchen, cashier and android device and print the bill at customer side
- Customer should be able to enter the feedback about the service and the food served by erestaurant android application

SYSTEM ANALYSIS

A.EXISTING SYSTEM

The current system is paper based. Papers are used in restaurants for displaying the traditional menu cards, writing down the orders of customers, storing the records of customers. The disadvantages of paper based system are that papers can get easily damaged by stain marks; they can be lost due to fire or accidents or can get lost in general. Hence, time and money is wasted. As traditional menu cards are paper based, any changes that need to be made in the menu will require reprinting of the entire menu card, leading to wastage. For small changes, reprinting the entire menu card is impossible. Changes in the menu card cannot be made dynamically. It is inefficient to access a particular record from the stack of papers. This system is time consuming. One has to call a waiter number of times till he notices it, and wait for him to arrive at their table to take their order. Also the waiter can misinterpret the customer's order since he is writing the order on paper, and the case of serving a wrong dish is possible.

- For placing any orders customers have to visit hotels or restaurants to know about food items and then place order and pay. In this method time and manual work is required.
- While placing an order over the phone, customer lacks the physical copy of the menu item, lack of visual confirmation that the order was placed correctly.
- Every restaurant needs certain employees to take the order over phone or in-person, to offer a rich dining experience and process the payment. In today's market, labor rates are increasing day by day making it difficult to find employees when needed.

B.PROPOESD SYSTEM

A Tablet menu completely revolutionizes the patron's dining experience. Existing programs provide an app that restaurants can use to feed their menus into iOS & Android based tablets and make it easier for the diners to flip, swipe & tap through the menu. We aim in providing and advanced menu display using android mobile phones at restaurants with a tablet menu that would recommend dishes based on a recommendation algorithm. In addition to this we run the app on an Android based tablet and not on an iOS based tablet which is more expensive alternative. We use a cloud based server for storing the database which makes it inexpensive and also secured. Developers of similar applications maintain that customers who seat at tables outfitted with tablets spend about 10% more than those at other tables ("people buy more when they can do so instantly, without waiting for service"). Proposed system consists of following modules.

MODULES

MODULES

- **Module 1: Login**

Module In login module the customer and restaurants login will be taken while they already registered on the application. Every manager/user will have login id and password to login to the application.

- **Module 2: Registration Module**

This module is displayed to the visitors if they need to perform some order placements, and new registration for restaurants who wants to do business with us on our online restaurant management application.

- **Module 3:Add/Update/remove Menu**

This module is for admin. Admin have rights to insert, update (modify) and delete the data in database as per his/her necessary requirements.

SYSTEM REQUIREMENT SPECIFICATION

FUNCTIONAL REQUIREMENTS

By conducting the requirements analysis, we listed out the requirements that are useful to restate the problem definition.

- ✦ Insert the image into database ✦ Split the image into no of parts.
- ✦ Merge the parts.
- ✦ Identify the image.
- ✦ Draw image manually.
- ✦ Maintain separate login for admin and operator.
- ✦ Maintain information about each criminal

MODULE DESCRIPTION

This application is designed into five independent modules which take care of different tasks efficiently.

1. User Interface Module.
2. Admin Module.

USER INTERFACE MODULE:

Actually every application has one user interface for accessing the entire application. In this application also we are providing one user interface for accessing this application. The user interface designed completely based on the end users. It is provide friendly accessing to the users. This user interface has attractive look and feel. Technically I am using the swings in core java for preparing this user interface.

ADMIN MODULE

User requirements	Elaboration	Further Elaboration
Create	Assign new user id & password for an employee.	
Delete	Administrator can delete the user id & password of unwanted employee.	
Update	First the details of employees are to be obtained by using user id & password.	After obtaining the original details the updated details are submitted.

SOFTWARE REQUIREMENT

SOFTWARE REQUIREMENT

Requirements:

Operating System	:	Windows
Graphical User Interface	:	Java Swing, AWT.
Application Logic	:	Java 7.

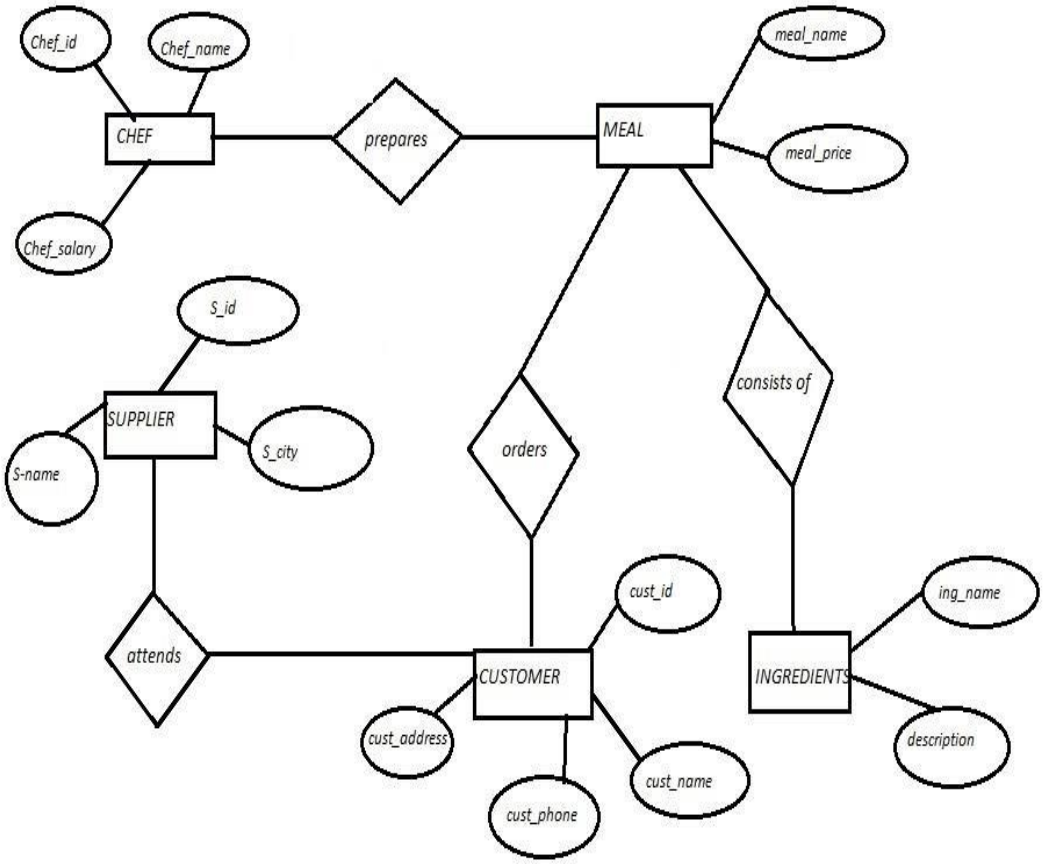
HARDWARE REQUIREMENTS

System Configuration

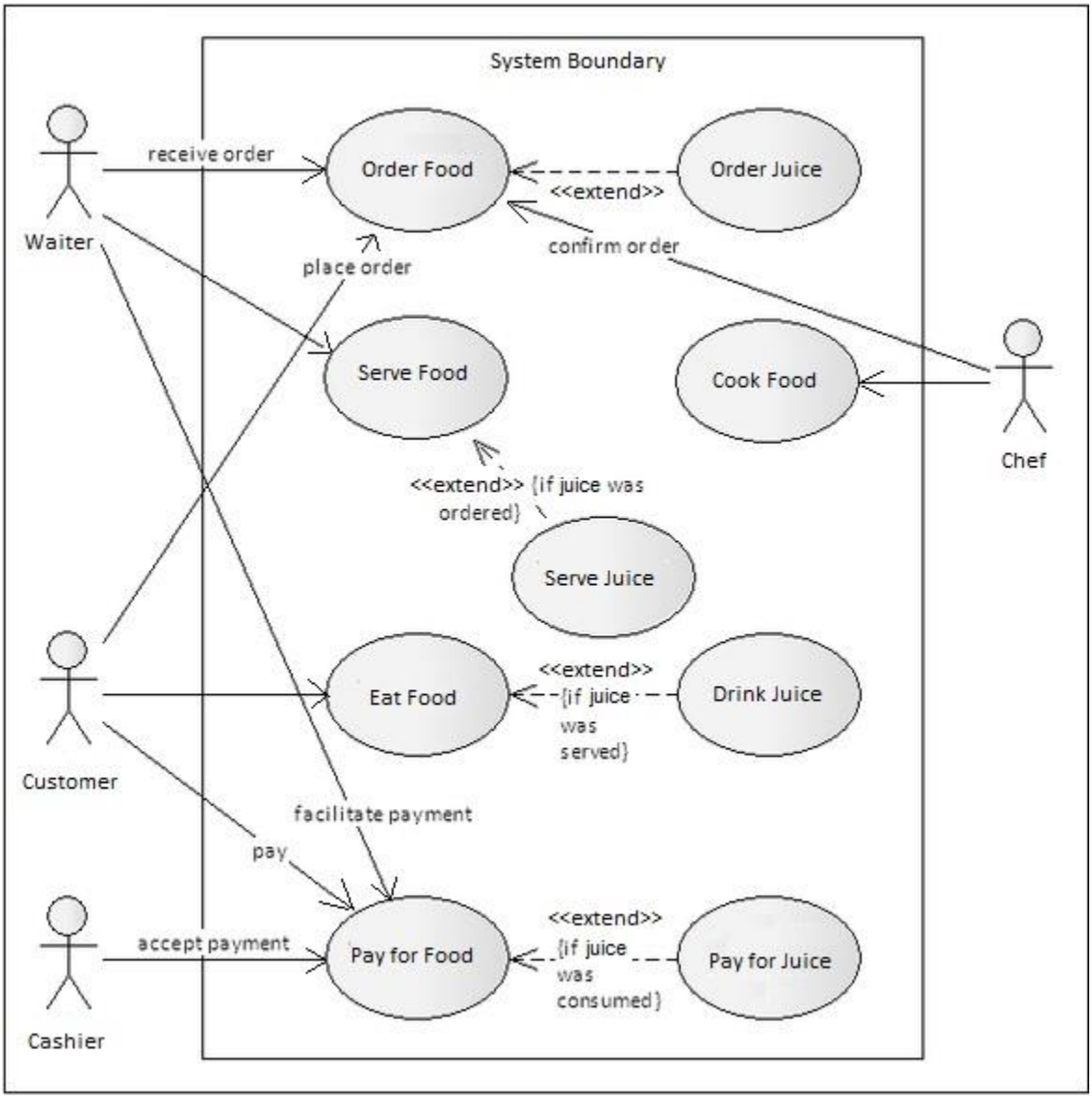
Processor	:	Pentium III – 900 MHz
Hard Disk	:	20 GB
RAM	:	128 MB

SYSTEM DESIGN

A. E-R DIAGRAM


Chef_id
Chef_name
CHEF
prepares
MEAL
meal_name
meal_price
Chef_salary
S_id
SUPPLIER
S_city
S-name
orders
consists of
attends
CUSTOMER
cust_id
cust_address
cust_name
cust_phone
INGREDIENTS
ing_name
description

B. UML DIAGRAM



SAMPLE CODING

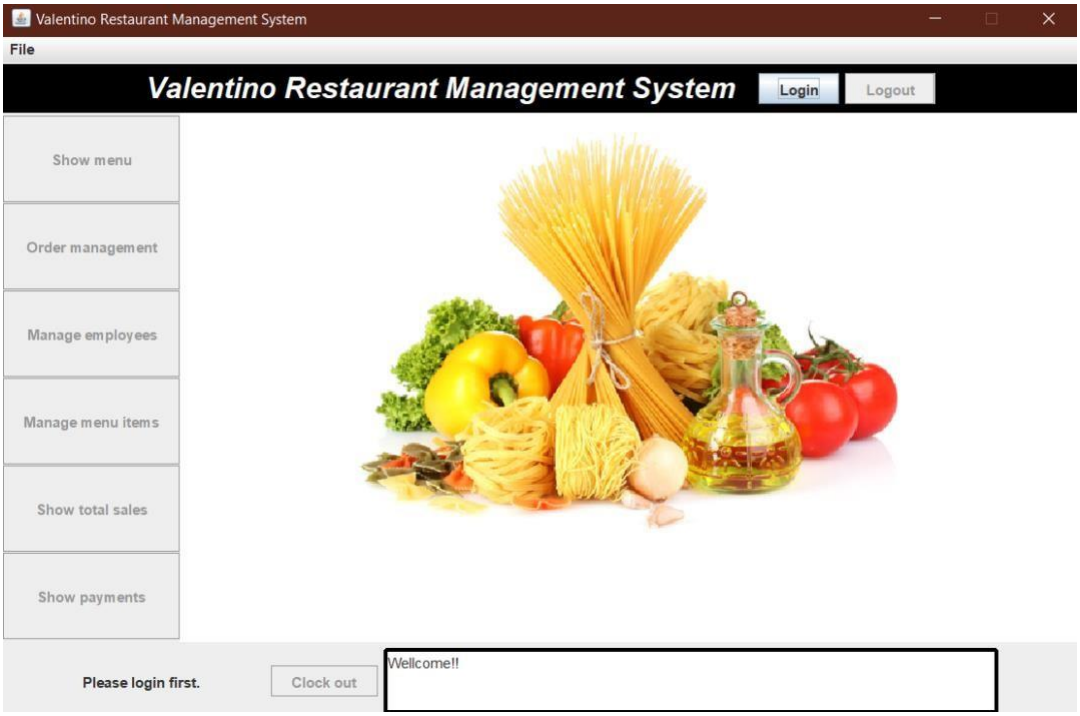
```
import java.util.* import
java.io.*; import
java.lang.*; import
java.util.Comparator;

public class Database
{
private final static String STAFF_FILE = "dataFiles/staff.txt"; private final
static String MANAGER_FILE = "dataFiles/manager.txt"; private final
static String MENU_FILE = "dataFiles/menu_item.txt"; private final static
String REPORT_FILE = "dataFiles/reports/report_"; private final static
String PAYMENT_FILE = "dataFiles/reports/payment_"; private final static
String WAGE_INFO_FILE = "dataFiles/wage_info.txt";

private Array List<Staff> staffList = new ArrayList<Staff>(); private
ArrayList<MenuItem> menuList = new ArrayList<MenuItem>();
private ArrayList<Order> orderList = new ArrayList<Order>();

private Date date; int
todaysOrderCounts;
/********************************************************************************* *
Constructor
*********************************************************************************/
public Database()
{ date = new Date(); todaysOrderCounts =
0; //Load order file??
}
/*********************************************************************************
* Getter
*********************************************************************************/
public ArrayList<Staff> getStaffList()
{
return staffList;
}

public ArrayList<MenuItem> getMenuList()
{
return menuList;
}

    public ArrayList<Order> getOrderList()
    {
        return orderList;
    }
```

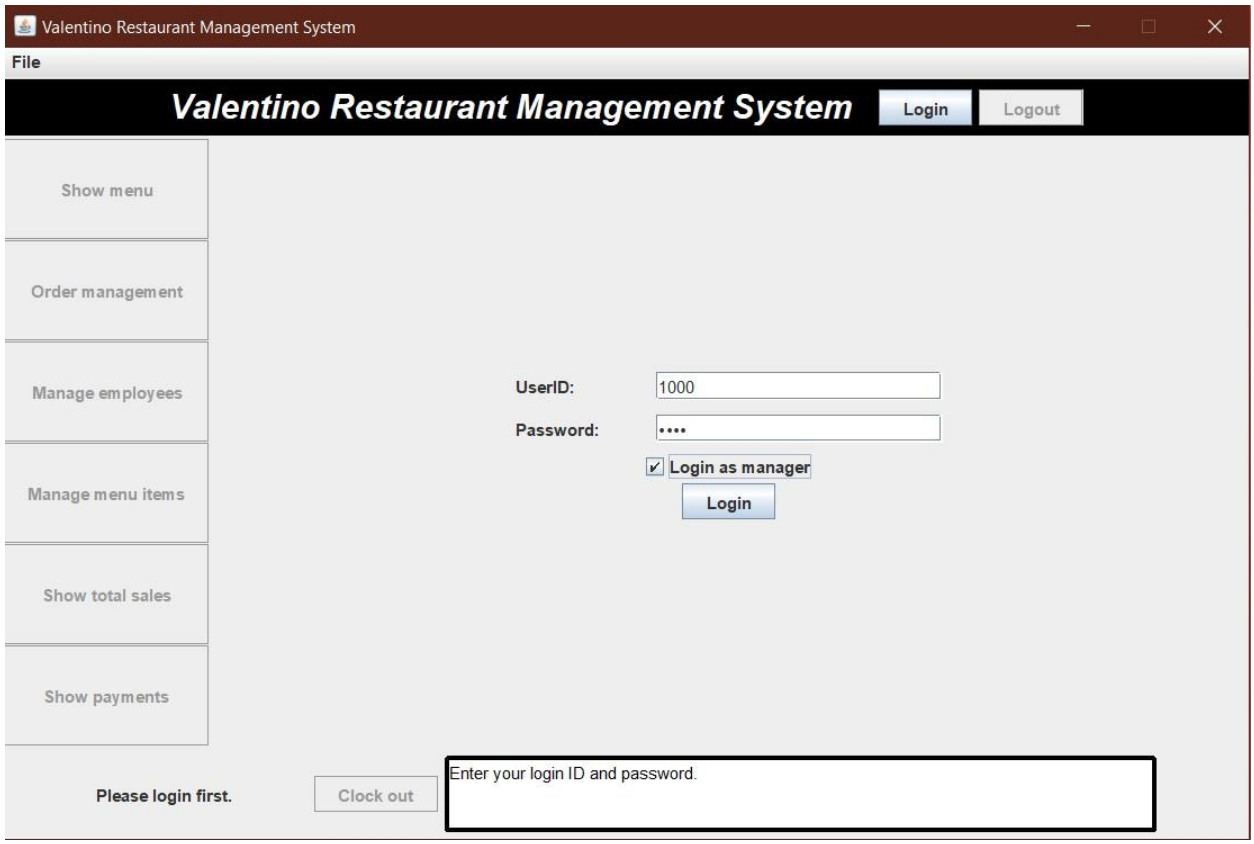
```
    public int getTodaysOrderCount()
    {
        return this.todaysOrderCounts;
    }

   //-----------------------------------------------------------
   // Find staff from ID
   //-----------------------------------------------------------
public Staff   findStaffByID(int id)
   {
      Iterator<Staff> it = staffList.iterator();
      Staff                    re  =  null;
boolean        found = false;

      if(id      <      0){
return null;
      }

      while (it.hasNext() && !found) {
         re = (Staff)it.next();
         if( re.getID() == id)
         {
            found = true;
         }
      }

      if(found)
return re;        else
return null;
   }

 public Manager()
   {
      super();
   }
   public Manager( int newID, String newLastName, String newFirstName, String newPassward)
   {
      super(newID,      newLastName,      newFirstName,      newPassward);
wageRate = MINIMUM_RATE;
   }
   public void setWageRate(double newRate)
   {
```

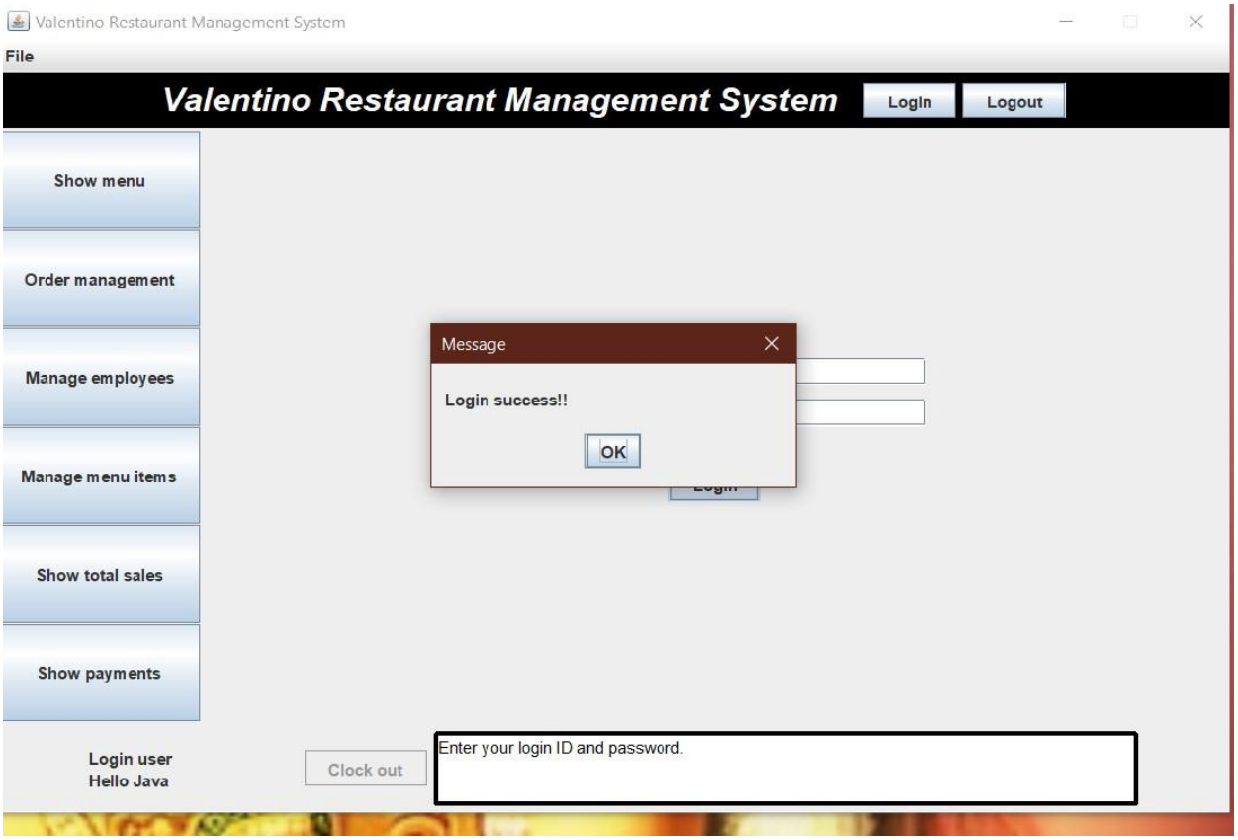
```
      if(wageRate < MINIMUM_RATE)
newRate = MINIMUM_RATE;
wageRate = newRate;
   }


   public double culculateWages()
   {
      if(getWorkState() != WORKSTATE_FINISH)
         return 0;

      return this.wageRate;
   } }
public class MenuItem
{
   //definition of menu item type
public final static int MAIN = 1;
public final static int DRINK = 2;
public final static int ALCOHOL = 3;
public final static int DESSERT = 4;

   private  int          ID;
private  String    name;
private byte    type;
   private double  price;

   private byte     state;     private double
promotion_price;     public final static byte
PROMOTION_ITEM = 1;
   public final static byte SEASONAL_ITEM = 2;


   public class OrderDetail
{ private int itemID;
private String itemName;
private double price;
private byte quantity;
   private double totalPrice;

   /**
    * Constructor for objects of class OrderDetail
    */
   public OrderDetail(MenuItem newMenuItem, byte newQuantity)
   {
```

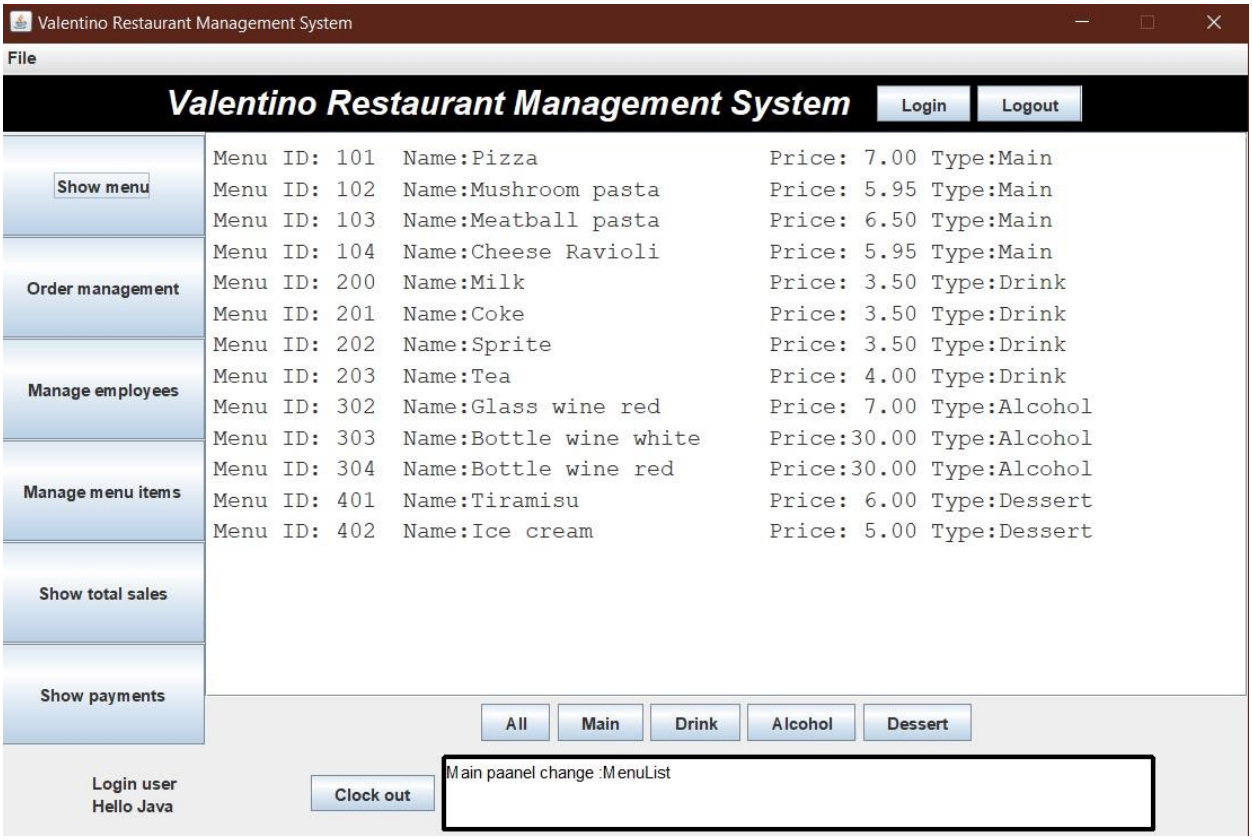
```
        this.itemID          =  newMenuItem.getID();
this.itemName        =  newMenuItem.getName();
this.price           =  newMenuItem.getPrice();
this.quantity   = newQuantity;
        this.totalPrice = this.price * this.quantity;
    }

    public int getItemID()
    {
        return this.itemID;
    }
    public String getItemName()
    {
        return this.itemName;
    }
    public double getPrice()
    {
        return this.price;
    }
    public byte getQuantity()
    {
        return this.quantity;
    }
    public double getTotalPrice()
    {
        return this.totalPrice;
    }

    public void addQuantity(byte add)
    {           quantity  +=  add;
totalPrice = price * quantity;
    }
```

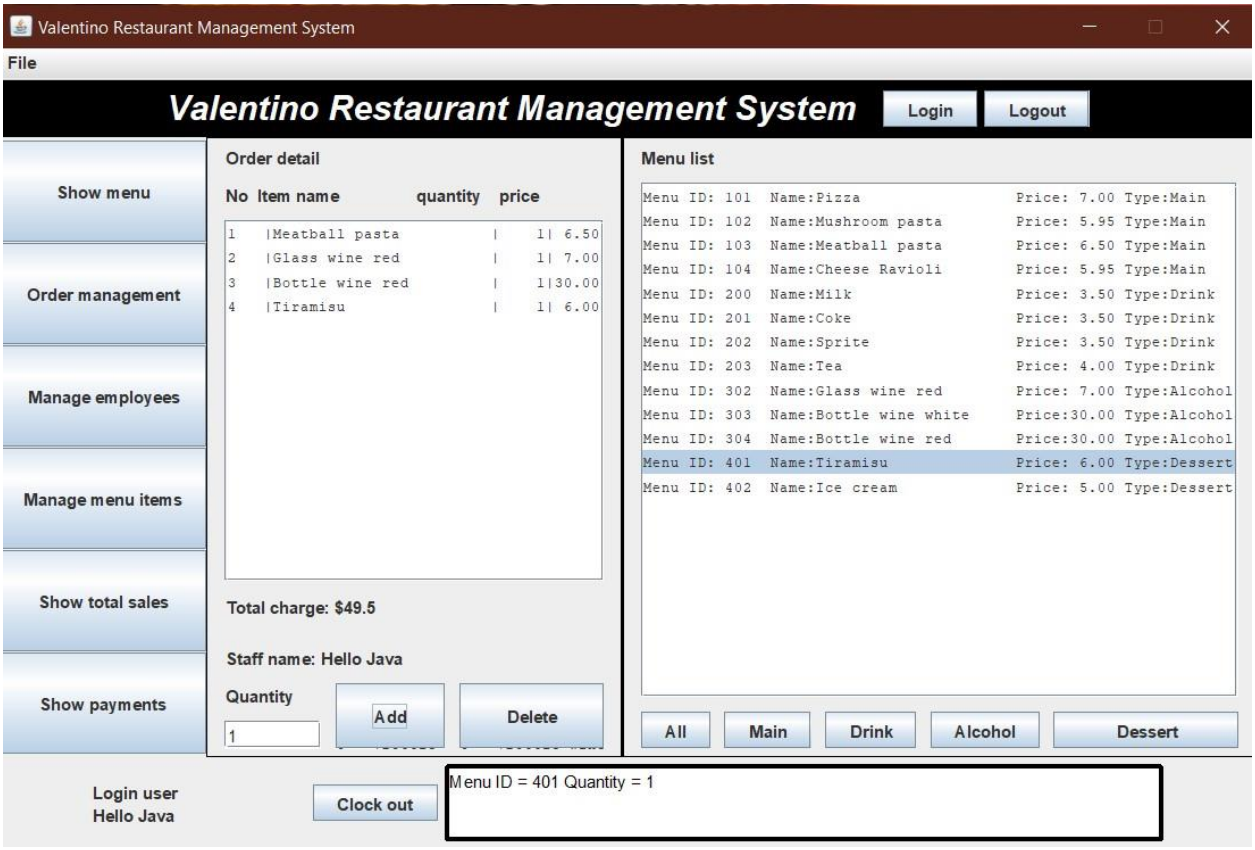
SNAPSHOT

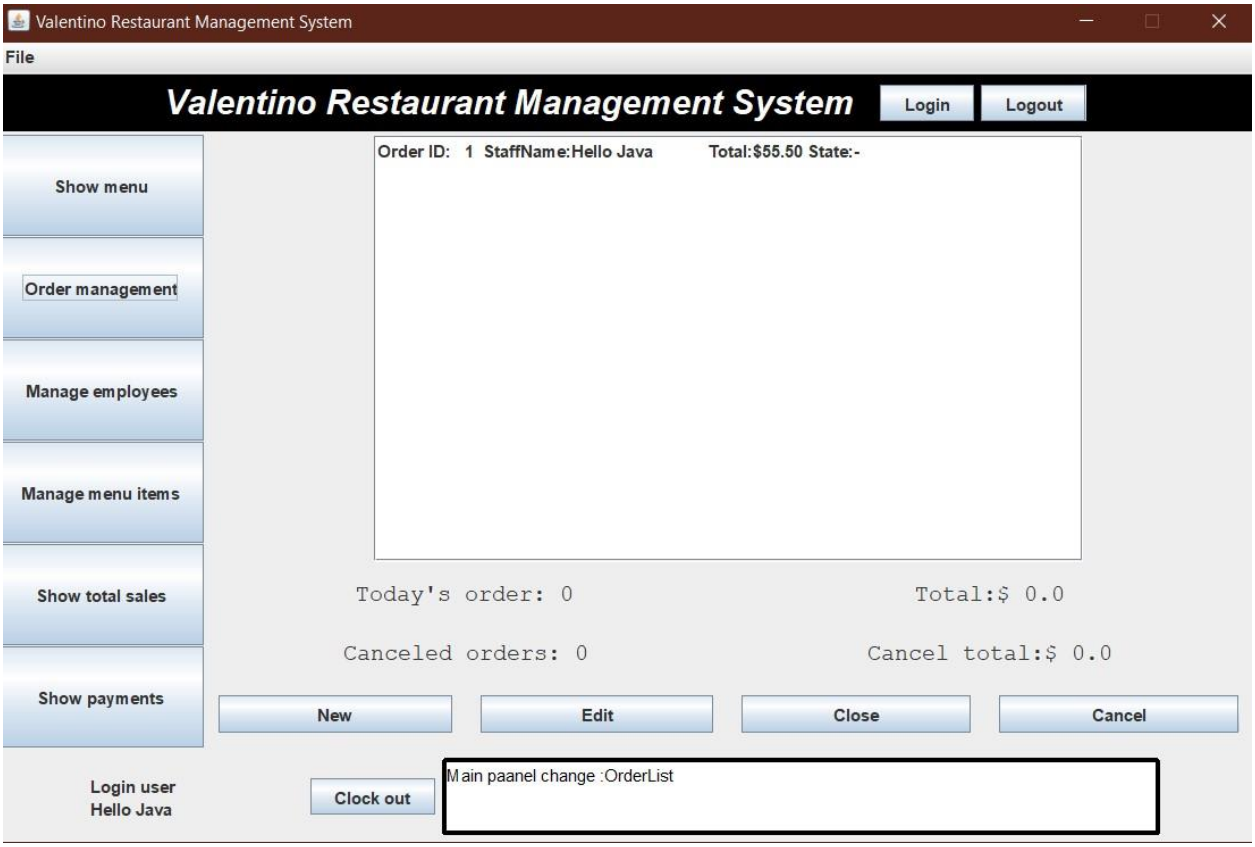

Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Please login first.
Clock out
Wellcome!!

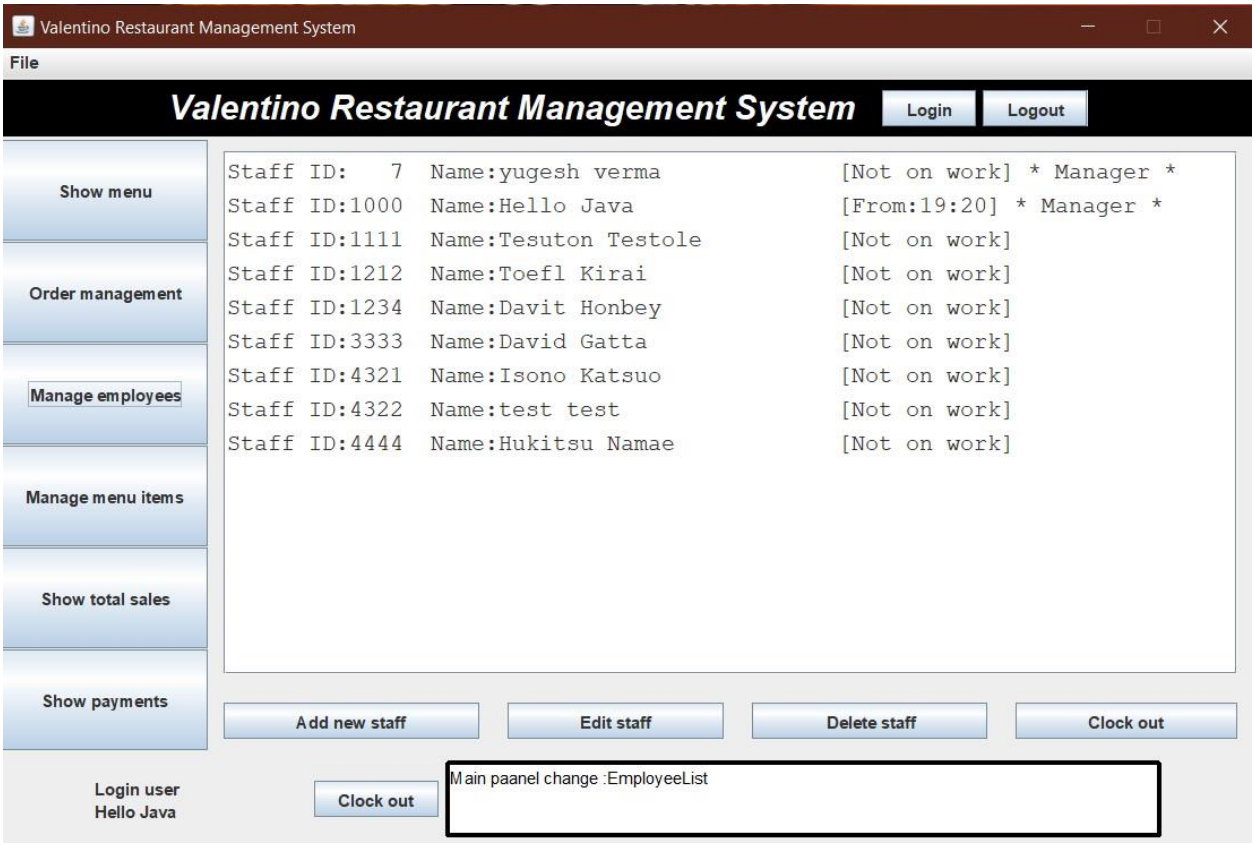

Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
UserID:
1000
Password:
Login as manager
Login
Please login first.
Clock out
Enter your login ID and password.

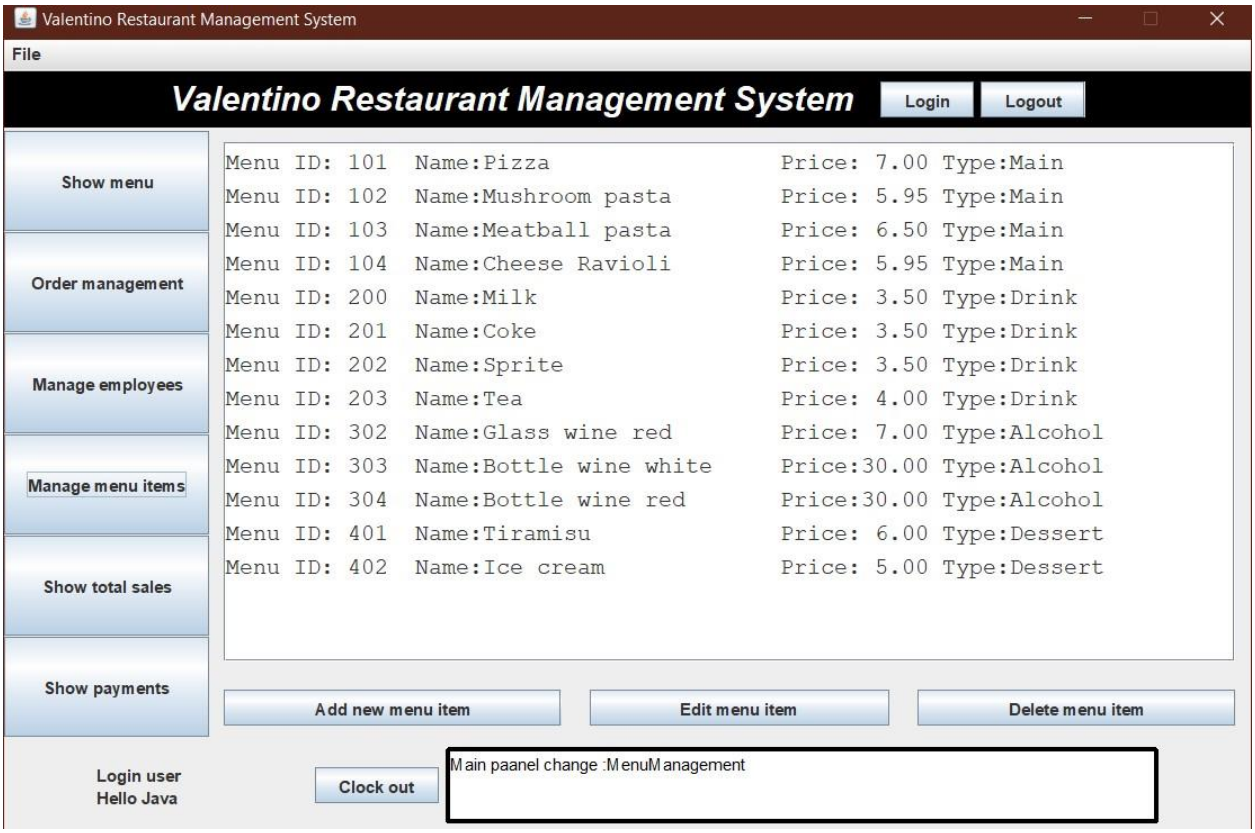

Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Message
Login success!!
OK
Login user
Hello Java
Clock out
Enter your login ID and password.

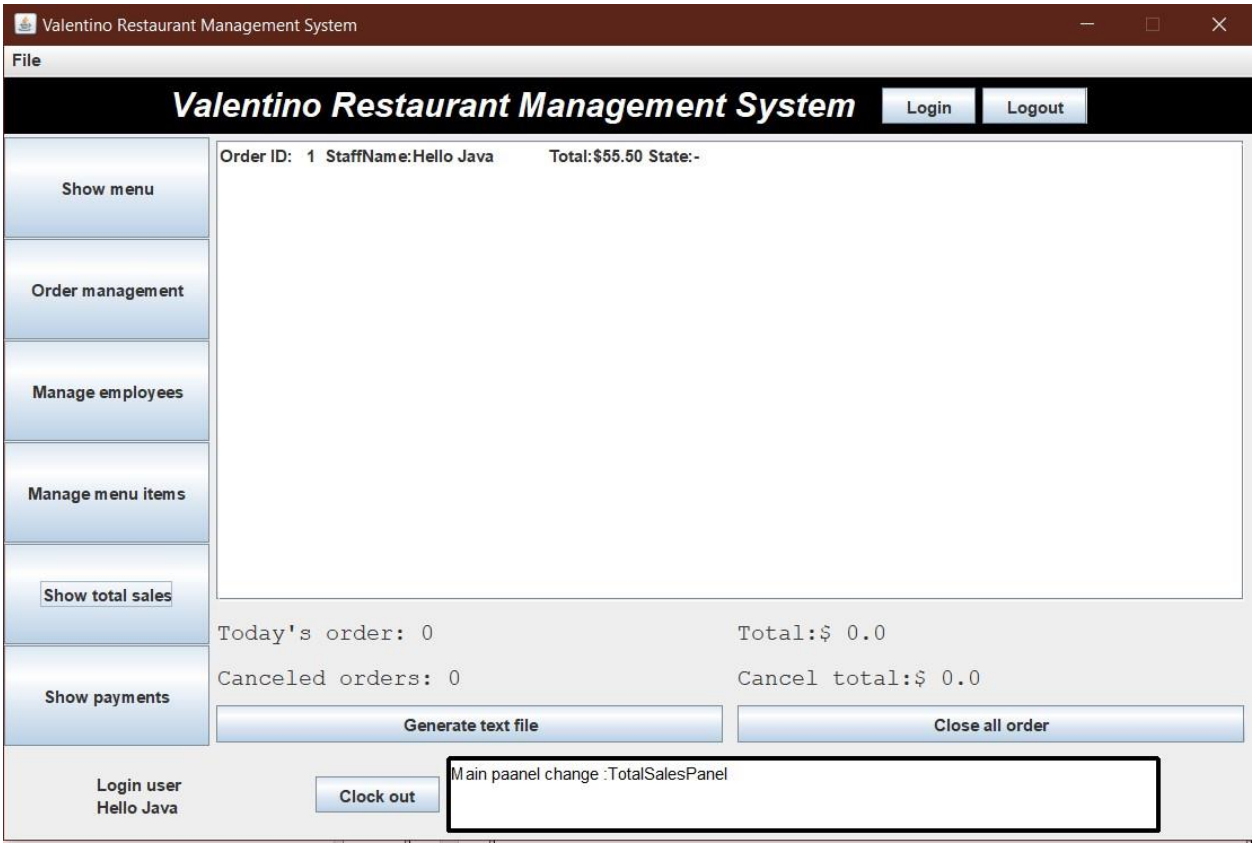

Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Menu ID: 101 Name:Pizza Price: 7.00 Type:Main
Menu ID: 102 Name:Mushroom pasta Price: 5.95 Type:Main
Menu ID: 103 Name:Meatball pasta Price: 6.50 Type:Main
Menu ID: 104 Name:Cheese Ravioli Price: 5.95 Type:Main
Menu ID: 200 Name:Milk Price: 3.50 Type:Drink
Menu ID: 201 Name:Coke Price: 3.50 Type:Drink
Menu ID: 202 Name:Sprite Price: 3.50 Type:Drink
Menu ID: 203 Name:Tea Price: 4.00 Type:Drink
Menu ID: 302 Name:Glass wine red Price: 7.00 Type:Alcohol
Menu ID: 303 Name:Bottle wine white Price:30.00 Type:Alcohol
Menu ID: 304 Name:Bottle wine red Price:30.00 Type:Alcohol
Menu ID: 401 Name:Tiramisu Price: 6.00 Type:Dessert
Menu ID: 402 Name:Ice cream Price: 5.00 Type:Dessert
All
Main
Drink
Alcohol
Dessert
Login user
Hello Java
Clock out
Main paanel change :MenuList

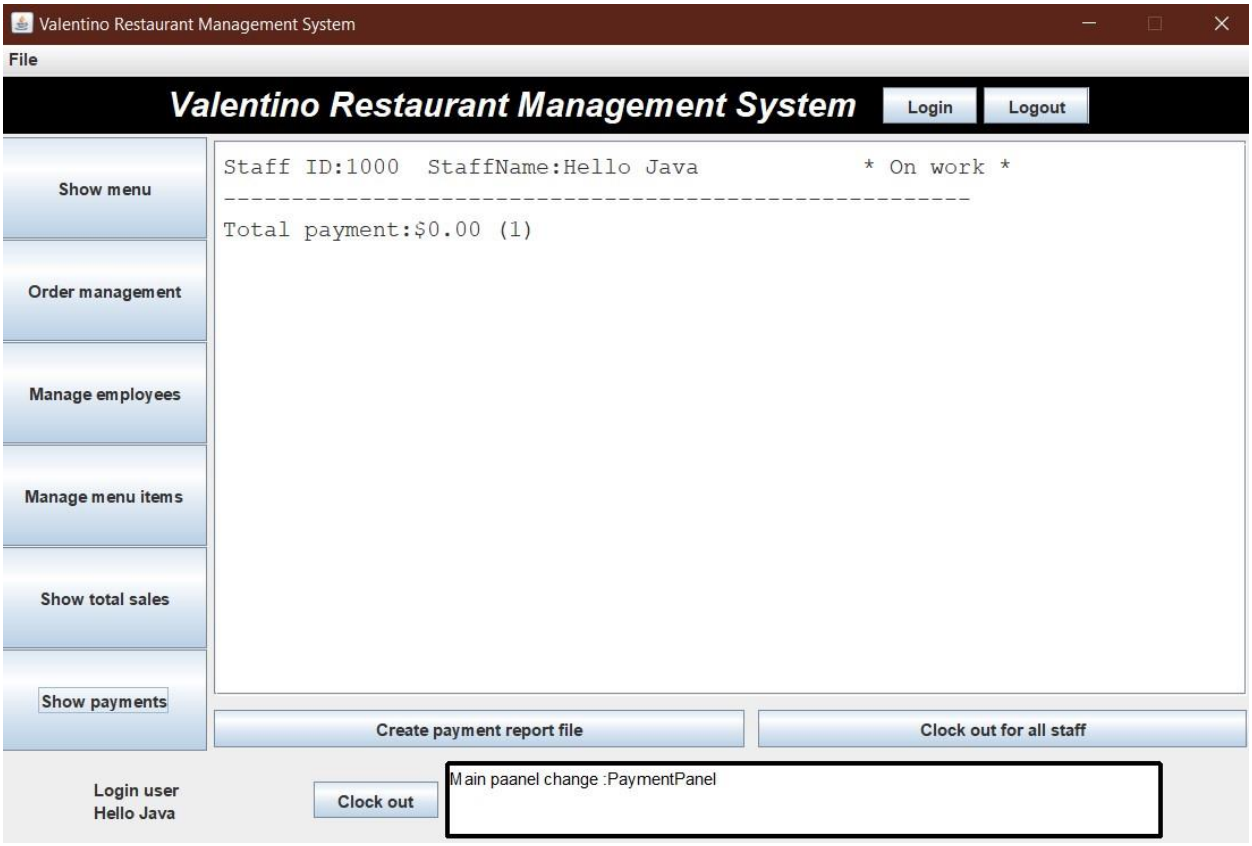

Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Order detail
No Item name quantity price
1 |Meatball pasta | 1| 6.50
2 |Glass wine red | 1| 7.00
3 |Bottle wine red | 1|30.00
4 |Tiramisu | 1| 6.00
Total charge: $49.5
Staff name: Hello Java
Quantity
1
Add
Delete
Menu list
Menu ID: 101 Name:Pizza Price: 7.00 Type:Main
Menu ID: 102 Name:Mushroom pasta Price: 5.95 Type:Main
Menu ID: 103 Name:Meatball pasta Price: 6.50 Type:Main
Menu ID: 104 Name:Cheese Ravioli Price: 5.95 Type:Main
Menu ID: 200 Name:Milk Price: 3.50 Type:Drink
Menu ID: 201 Name:Coke Price: 3.50 Type:Drink
Menu ID: 202 Name:Sprite Price: 3.50 Type:Drink
Menu ID: 203 Name:Tea Price: 4.00 Type:Drink
Menu ID: 302 Name:Glass wine red Price: 7.00 Type:Alcohol
Menu ID: 303 Name:Bottle wine white Price:30.00 Type:Alcohol
Menu ID: 304 Name:Bottle wine red Price:30.00 Type:Alcohol
Menu ID: 401 Name:Tiramisu Price: 6.00 Type:Dessert
Menu ID: 402 Name:Ice cream Price: 5.00 Type:Dessert
All
Main
Drink
Alcohol
Dessert
Login user
Hello Java
Clock out
Menu ID = 401 Quantity = 1


Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Order ID: 1 StaffName:Hello Java Total:$55.50 State:-
Today's order: 0
Total:$ 0.0
Canceled orders: 0
Cancel total:$ 0.0
New
Edit
Close
Cancel
Login user
Hello Java
Clock out
Main paanel change :OrderList


Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Staff ID: 7 Name:yugesh verma [Not on work] * Manager *
Staff ID:1000 Name:Hello Java [From:19:20] * Manager *
Staff ID:1111 Name:Tesuton Testole [Not on work]
Staff ID:1212 Name:Toefl Kirai [Not on work]
Staff ID:1234 Name:Davit Honbey [Not on work]
Staff ID:3333 Name:David Gatta [Not on work]
Staff ID:4321 Name:Isono Katsuo [Not on work]
Staff ID:4322 Name:test test [Not on work]
Staff ID:4444 Name:Hukitsu Namae [Not on work]
Add new staff
Edit staff
Delete staff
Clock out
Login user
Hello Java
Clock out
Main paanel change :EmployeeList


Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Menu ID: 101 Name:Pizza Price: 7.00 Type:Main
Menu ID: 102 Name:Mushroom pasta Price: 5.95 Type:Main
Menu ID: 103 Name:Meatball pasta Price: 6.50 Type:Main
Menu ID: 104 Name:Cheese Ravioli Price: 5.95 Type:Main
Menu ID: 200 Name:Milk Price: 3.50 Type:Drink
Menu ID: 201 Name:Coke Price: 3.50 Type:Drink
Menu ID: 202 Name:Sprite Price: 3.50 Type:Drink
Menu ID: 203 Name:Tea Price: 4.00 Type:Drink
Menu ID: 302 Name:Glass wine red Price: 7.00 Type:Alcohol
Menu ID: 303 Name:Bottle wine white Price:30.00 Type:Alcohol
Menu ID: 304 Name:Bottle wine red Price:30.00 Type:Alcohol
Menu ID: 401 Name:Tiramisu Price: 6.00 Type:Dessert
Menu ID: 402 Name:Ice cream Price: 5.00 Type:Dessert
Add new menu item
Edit menu item
Delete menu item
Login user
Hello Java
Clock out
Main paanel change :MenuManagement


Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Order ID: 1 StaffName:Hello Java Total:$55.50 State:-
Today's order: 0
Total:$ 0.0
Canceled orders: 0
Cancel total:$ 0.0
Generate text file
Close all order
Login user
Hello Java
Clock out
Main paanel change :TotalSalesPanel


Valentino Restaurant Management System
File
Valentino Restaurant Management System
Login
Logout
Show menu
Order management
Manage employees
Manage menu items
Show total sales
Show payments
Staff ID:1000 StaffName:Hello Java * On work *
Total payment:$0.00 (1)
Create payment report file
Clock out for all staff
Login user
Hello Java
Clock out
Main paanel change :PaymentPanel

FUTURE ENHANCEMENTS

THE FUTURE ENHANCEMENTS OF THIS MINI PROJECT INCLUDE THE FOLLOWING:

- ✞ Allow Customer To Customize Food Order & Reservation System
- ✞ Allow To Save Payments Details For Future Use
- ✞ Allow To Process An Order As A Guest
- ✞ Allow To Find And Choose A Nearby Restaurant
- ✞ Integration with In Store Touch Screen Devices Like iPad

CONCLUSION

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Here the need for tablet food ordering is analyzed and its advantages over the traditional food ordering system in restaurants are studied. The proposed online restaurant management system is time saving and error free as compared to the traditional system. This system attracts customers and also adds the efficiency of maintaining the restaurant's ordering and billing. Hence it is the modern way to grow up the business using E-commerce. Here implementation of an advanced erestaurant menu ordering system using smart android mobile phone. This system entirely reduces the unnecessary time. Every order is associated with an individual seat at the table, and orders are built one customer at a time, just like on paper, but with greater accuracy. Items can also easily be shared by the whole table, moved or modified, and noted and the cost can be calculated in real time. The idea of the advanced e-restaurant can also be extended for future using GPRS module. GPRS module can be used to monitor and request of the menu order from table will be directly sent to the predefined web link for process of even billing the items purchased.

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